

XXVI. ON SOME ORIENTAL SOLIFUGÆ, WITH
DESCRIPTIONS OF NEW FORMS.

By A. S. HIRST (*British Museum, Nat. Hist.*).

The new forms described in this paper (with the exception of *Galeodes fischeri* and *Eusimonia celeripes*) form part of the collection of the Indian Museum, Calcutta. It is owing to the kindness of Dr. N. Annandale that I have been enabled to examine and to describe them.

Galeodes darius, Pocock.

1895, *Ann. Mag. Nat. Hist.* (ser. 6), vol. xvi, p. 81; 1889-1900, *Journ. Linn. Soc.*, vol. xxvii, p. 403; 1905, Birula, *Bull. Acad. Imp. Sci. St. Petersburg* (ser. 5), vol. xxii, p. 260.

♀. *Mandible*.—Upper jaw armed with two minor intermediate teeth, the posterior one small. Lower jaw also with two minor teeth.

Palpi.—Patella armed ventrally with bristles which are alternately very long and rather short; tibia of palp with five or six pairs of spines, some of which exceed the height of the segment.

Legs.—Tarsi of second and third legs with seven spines, the posterior basal spine being absent. Tarsi of fourth legs with five pairs of spines.

Locality.—Fao, Persia.

Remarks.—This species is closely allied to *G. macmahoni*, Pocock, but differs in that the tibia of the tarsus is darkened.

Galeodes aulicus, sp. nov.

♂. *Colour*.—Pale sandy yellow; head and terga of abdomen infusate; mandibles pale above and marked with faint stripes; patella, tibia and tarsus of palp deeply infusate, the distal half of the femur dark or pale; first leg with tibia and tarsus darkened, the posterior legs entirely pale.

Head.—Width of head-plate about half the length of the patella of the maxillipalp and considerably less than the length of the tibia.

Mandible.—Blade of flagellum resembling that of *G. agilis*, Pocock. Lower jaw with one or two minor teeth.

Palpi.—Patella armed with four long and strong ventro-lateral spines and with a median row of spines, tibia with six (in one of the specimens with only four) pairs of strong and rather short spines, the anterior pair, however, exceeding the height of the segment; "cylinder-bristles" absent.

Legs.—Tarsi of second and third legs with four pairs of spines, tarsi of fourth legs with five pairs of spines, bristles of tarsus of fourth leg stout and a little curved.

Measurements in mm.—Length of body 34; width of head 11.5; length of patella of palp 23.5; of tibia of palp 15.5; of tarsus of palp 3.5.

Locality.—Seistan. Two males (one of them mutilated) collected by Col. MacMahon.

Remarks.—This new species agrees with *G. citrinus*, Pocock, and *G. schach*, Birula, in the absence of "cylinder-bristles" from the ventral surface of the palp, but differs from them in having the distal segment of the tarsus of the fourth legs armed with a pair of spines.

Galeodes festivus, sp. nov.

♂. *Colour*.—Pale sandy yellow; head with a pair of dark lateral patches; abdomen with the anterior and posterior margins of the terga darkened; mandibles fawn-coloured above and with well marked stripes; patella, tibia and tarsus (with the exception of its distal extremity) of maxillipalp deeply infusate, the patella almost as dark as the tibia; femur of maxillipalp with the distal third darkened; fourth pair of legs with the distal segments strongly infusate; the anterior legs paler.

Mandibles.—Lower jaw with two minor teeth, the posterior one being minute. Blade of the flagellum narrower as compared with the length than is the case in *G. agilis*, Pocock.

Palpi.—Patella about twice as long as the width of the head, and armed below with three rows of spines, some of which exceed the height of the segment; tibia with six pairs of spines, the distal pair alone exceeding the height of the segment; "cylinder-bristles" fairly slender, subcylindrical and with the basal rings rather high.

Legs.—Tarsi of second and third legs armed with seven spines, the posterior basal spine being absent. Tarsi of fourth legs with five pairs of spines. Bristles of tarsi of fourth pair of legs broader and less sharply pointed than is the case in *G. agilis*. Blade of external malleolus less than half the width of the head.

Measurements in mm.—Length of body 42; width of head 10; length of palp 62; of first leg 45; of fourth leg 61; of patella of palp 21.5; of tibia of palp 15; of tarsus of palp 3.75.

Locality.—Seistan, a single male specimen collected by Col. MacMahon.

Remarks.—This species is closely allied to *G. agilis*, Pocock, differing from it in the shape of the bristles of the tarsi of the fourth legs.

Galeodes truculentus, Pocock.

1889-1900, *Journ. Linn. Soc.*, vol. xxvii, p. 402; 1905, Birula, *Bull. Acad. Imp. Sci. St. Petersburg* (ser. 5), vol. xxii, pp. 252 and 253.

This species is very closely allied to (perhaps identical with) *G. araneoides*, Pallas. The bristles of the pad of the fourth leg, however, are broad and not very sharply pointed.

♂. *Mandible*.—Lower jaw with three minor teeth.

Palp with the patella a little more than twice the width of the head.

Legs.—Tarsi of second and third legs with four pairs of spines. Tarsus of fourth leg with four pairs of spines.

Remarks.—The fourth leg of the male measures 50 mm. and not 60 mm. as stated in Mr. Pocock's description.

Galeodes citrinus, Pocock.

1895, *G. citrinus*, Pocock, *Ann. Mag. Nat. Hist.* (ser. 6), vol. xvi, p. 81; 1889-1900, *G. citrinus*, Pocock, *Journ. Linn. Soc.*, vol. xxvii, pp. 403 and 404; 1900, *G. nigripalpis*, Pocock, *Fauna of British India*, Arachnida, p. 144; 1905, *G. citrinus*, Birula, *Bull. Acad. Imp. Sci. St. Petersburg* (ser. 5), vol. xxii, p. 254; *G. pococki*, Birula, *loc. cit.*, p. 256.

Mandible.—Lower jaw with a single minor tooth.

Palpi.—Patella twice or a little more than twice the width of the head-plate; tibia ventrally without cylinder-bristles.

Legs.—Tarsi of second legs with four anterior spines and two posterior spines (one on each segment); tarsi of third legs usually armed with seven spines (the posterior basal spine being absent) or with the same armature as the second legs. Tarsi of fourth legs with four pairs of spines, the distal segment unspined.

There are two forms of this species—

- (1) The typical form: Colour paler than in the variety *nigripalpis*; tarsus of palp pale yellow; legs not darkened; size large (up to 40 mm.); locality Jask.
- (2) Var. *nigripalpis*, Pocock: Tarsus of palp infusate; legs slightly darkened; abdominal terga much darker than in the typical form; size smaller (up to 29 mm.); locality Omara, Baluchistan.

Galeodes indicus, Pocock.

1900, Pocock, *Fauna of British India*, Arachnida, pp. 142-144.

Dr. Birula compares this species with his *G. auronitens*. The two species are not closely allied, however, for *G. auronitens* belongs to the *caspicus* group, whilst *G. indicus* belongs to the *araneoides* group. Pocock says in his description of *G. indicus* "Tarsi of legs armed as in *G. fatalis*, except that the distal segment is spined." The word 'spined' in this sentence is a misprint for 'unspined,' for in *G. fatalis*, Licht. and Herbst, the distal tarsal segment of the fourth leg is spined, whilst this is not the case in *G. indicus*.

Galeodes chitralensis, sp. nov.

♂. *Colour*.—Paler than in *G. indicus*, Pocock; head scarcely darkened, but darker than the legs, which are sandy yellow; ocular-

tubercle black; abdominal terga infusate; the ventral surface of the abdomen a dirty greyish colour; mandibles marked with faint stripes; palp pale yellow in colour.

Mandibles.—Lower jaw with two minor teeth which are close together and followed by a slight gap. Blade of flagellum somewhat longer and narrower than is the case in *G. indicus*.

Palpi.—Patella slightly more than twice the width of the head (in *G. indicus*, the patella of the palp is considerably more than twice the width of the head). Spines of the tibia six in number, the first and third alone exceeding in length the height of the segment; "cylinder-bristles" long and slender as in *G. indicus*.

Legs.—Tarsi of second and third legs armed with seven spines, the posterior basal spine having disappeared. Tarsi of fourth legs with four pairs of spines, the distal segment without spines; bristles of pad of tarsus narrower than in *G. indicus*. Blade of external malleolus about half the width of the head.

Measurements in mm.—Length of body 24·5; width of head 6·5; length of palp 39; of first leg 29; of fourth leg 41·5; of patella of palp 14; of tibia of palp 10·25; of tarsus of palp 3.

Locality.—Chitral, a single male specimen collected by Mr. F. J. Daley.

Remarks.—The male of this species differs from that of *G. indicus*, Pocock, in its much paler colour and shorter palpi.

Galeodes chitralensis pallescens, sub-sp. nov.

This sub-species structurally resembles the typical form, except in the armature of the lower jaw, which is armed with three minor teeth (it is probable that the lower jaw of the typical form is also normally armed with three teeth); the terga of the abdomen, however, are pale yellow in colour.

Measurements in mm.—Length of body 31·5; width of head 7·5; length of palp 46·5; of first leg 32·5; of fourth leg 49; of patella of palp 16·25; of tibia of palp 12; of tarsus of palp 3.

Locality.—Sambalpur, Central Provinces, India; a single male specimen collected by Mr. V. Ball.

Galeodes fischeri, sp. nov.

Colour.—Closely resembling that of *G. indicus obscurior*, Pocock.

♀. *Mandible* with the lower jaw armed with three minor teeth. Flagellum similar to that of *G. indicus*.

Palpi.—Shorter than in *G. indicus*, the patella about twice the width of the head; "cylinder-bristles" of tibia sparse, slender and very short, usually measuring considerably less than a quarter of the length of the spines, whilst in *G. indicus* they are often more than half the length of the spines.

Legs.—Proximal segment of tarsus of second and third legs provided with three spines anteriorly, the posterior side with a single spine, distal segment with a single spine, situated on the

anterior side. Tarsi of fourth legs with four pairs of spines; the distal segment unspined.

Measurements in mm.—Length of body 25; width of head 6.5; length of palp 42.5; of first leg 30.5; of fourth leg 43.5; of patella of palp 14; of tibia of palp 10.75; of tarsus of palp 3.

♀. *Mandible.*—Upper jaw with two minor teeth between the principal ones, dentition of lower jaw similar to that of the male.

Palp.—Patella and tibia with long and slender spines as in *G. indicus*.

Legs.—Blade of external malleolus almost equalling the breadth of the ocular tubercle.

Measurements in mm.—Length of body 24; width of head 7.75; length of palp 35; of first leg 25; of fourth leg 36.5; of patella of palp 11; of tibia of palp 9; of tarsus of palp 3.

Locality.—North Coimbatore District, Madras, three males and two females collected by Mr. C. E. C. Fischer.

Remarks.—This species differs from *G. indicus*, Pocock, in that the “cylinder-bristles” of the tibia of the palp are very short.

Galeodes bacillifer, Pocock.

1900, *G. bacillifer*, Pocock, *Fauna of British India*, Arachnida, p. 144; 1904, *G. bacillifer*, Birula, *Ann. Mus. Zool. Acad. St. Petersburg*, vol. ix, p. 395; 1905, *G. bacillifer*, Birula, *Bull. Acad. Imp. Sci. St. Petersburg* (ser. 5), vol. xxii, p. 256.

The tibia of the palp of the male is provided ventrally with a few very long and slender “cylinder-bristles” in the typical specimen. These bristles are confined to the basal half of the segment. In the specimens determined by Dr. Birula as belonging to this species the “cylinder-bristles” are said to be absent.

Galeodes annandalei, sp. nov.

Colour.—Yellowish white; head greyish above, the ocular tubercle black; abdomen with the terga darkened, its ventral surface greyish yellow; mandibles slightly darkened above and marked with broad stripes; patella, tibia and tarsus of palp and the femora and patellæ of the legs slightly infusate.

Mandibles with upper jaw provided (between the principal teeth) with two minor teeth of fairly large size, lower jaw with three minor teeth.

Palpi.—A little shorter than in *G. bacillifer* (see measurements); patella armed with long and thin spines as in *G. indicus* and *bacillifer*; tarsus with a pair of strong bristles as in *G. bacillifer*.

Legs.—Tarsi of second and third legs ventrally with four pairs of spines; tarsi of fourth legs also with four pairs of spines, the distal segment being unspined.

Abdomen.—Fifth abdominal segment ventrally with a curved row of thin yellowish bristles.

Measurements in mm.—Length of body 27·5; width of head 7·5; length of palp 37·5; of first leg 25; of fourth leg 41·5; of patella of palp 12·5; of tibia of palp 10; of tarsus of palp 2·5.

Locality.—Malakand, N.-W. Frontier of India; a single female example.

Remarks.—This new species is closely allied to *G. bacillifer*, Pocock, but is darker in colour, the abdomen being ornamented above with a dark band.

The following key shows some of the principal differences between the males of the species of *Galeodes* (sub-gen. *Galeodes*) that I have been able to examine:—

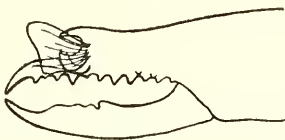
- | | | | |
|---|---|---|------------------------------|
| 1 | { | ¹ Distal segment of tarsus of fourth leg armed below with a pair of spines | 2 |
| | | Distal segment of tarsus of fourth leg without spines | 7 |
| 2 | { | Tibia of palp furnished ventrally with "cylinder-bristles" | 3 |
| | | Tibia of palp ventrally without "cylinder-bristles" <i>G. aulicus</i> , Hirst. | |
| 3 | { | Proximal tarsal segment of second and third legs with a posterior basal spine | <i>G. afghanus</i> , Pocock. |
| | | Proximal tarsal segment of second and third legs without a posterior basal spine | 4 |
| 4 | { | Tibia of palp fuscous | 5 |
| | | Tibia of palp yellow <i>G. macmahoni</i> , Pocock | |
| 5 | { | Size large (over 40 mm.); yellow; patella of palp twice width of head | 6 |
| | | Smaller (about 30 mm.); browner; patella of palp less than twice width of head <i>G. orientalis</i> , Stol. | |
| 6 | { | Bristles of pad of tarsus of fourth leg broad, their ends abruptly pointed | <i>G. festivus</i> , Hirst. |
| | | Bristles of pad of tarsus very much narrower, their ends sharply pointed <i>G. agilis</i> , Pocock. | |
| 7 | { | Tibia of palp furnished ventrally with "cylinder-bristles" | 8 |
| | | Tibia of palp ventrally without "cylinder-bristles" <i>G. citrinus</i> , Pocock. | |
| 8 | { | "Cylinder-bristles" of tibia of palp long (either slender or stout) | 9 |
| | | "Cylinder-bristles" of tibia of palp very stout, slender and cylindrical <i>G. fischeri</i> , Hirst. | |

¹ The posterior legs of the male specimen of *G. afghanus*, Pocock, are missing. The female which is supposed to belong to this species, however, has the distal segment of the fourth leg armed below with a pair of spines.

- | | | | | |
|----|---|---|----|---------------------------------|
| 9 | { | Bristles forming pad of tarsus of fourth leg not clavate in shape .. | 10 | |
| | | Bristles forming pad of tarsus of fourth leg clavate in shape .. | | <i>G. bacillifer</i> , Pocock. |
| 10 | { | Proximal tarsal segment of second and third legs without a posterior basal spine | 11 | |
| | | Proximal tarsal segment of second and third legs usually with a posterior basal spine | | <i>G. araneoides</i> , Pallas. |
| 11 | { | Legs sandy yellow, patella of palp twice the width of the head .. | | <i>G. chitralensis</i> , Hirst. |
| | | Legs browner, patella of palp considerably more than twice the width of the head | | <i>G. indicus</i> , Pocock. |

Eusimonia celeripes, sp. nov.

Colour.—Pale yellow; head infusate; abdomen greyish yellow; palpi and legs slightly infusate.



Mandible of *Eusimonia celeripes*, Hirst.

Mandible.—Dorsal horn short, pointed and slightly curved; Flagellum strongly curved, the terminal part abruptly narrowed and sharply pointed. Vertical lamina with the lower corner not rounded but angular. Upper jaw with the fourth, seventh and eighth teeth (from the anterior end) the largest; the first, third, sixth, ninth and tenth of large size, the remaining teeth being small. Lower jaw furnished with a strong tooth, which is usually preceded by two or three rudimentary teeth.

Palpi.—Inner side of tibia of palp armed towards the distal end with six spines, the ends of which are blunt and often enlarged; the proximal spine is the largest.

Abdomen.—Third abdominal segment provided with a cluster of 6-7 short and stout bristles. Fourth abdominal segment with twelve long and slender bristles.

Measurements in mm.—Length of body 10.5.

Locality.—Kaschgar Steppe. Three males collected by Mr. Constantine Aris.

Remarks.—This species is closely allied to *E. turkeстана*, Kraepelin, from which it differs in the form of the flagellum, dentition of the mandibles, and in the number of bristles on the ventral surface of the fourth abdominal segment.